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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/675,029	09/28/2000	Ricardo I. Fuentes	11828/1	7682

26646 7590 05/16/2003

KENYON & KENYON  
ONE BROADWAY  
NEW YORK, NY 10004

EXAMINER

CULBERT, ROBERTS P

ART UNIT	PAPER NUMBER
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1763

DATE MAILED: 05/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/675,029

Applicant(s)

FUENTES, RICARDO I.

Examiner

Roberts Culbert

Art Unit

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 05 May 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 28-30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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**DETAILED ACTION*****Election/Restrictions***

Applicant's election with traverse of claims 1-27 in Paper No. 4 is acknowledged. The traversal is on the ground(s) that there would be no serious burden for the examiner to search and examine all of the pending claims at the same time given the commonality of the subject matter. This is not found persuasive because the search for one group is not required for the other groups and searching and examining all inventions would place a serious burden on the examiner.

The requirement is still deemed proper and is therefore made FINAL.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-19 and 23-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,660,642 to Britten in view of U.S. Patent 5,171,393 to Moffat.

Britten teaches a method for wet etching a substrate by contacting the substrate with the meniscus of a liquid etchant. Referring to Figure 1, Britten shows a processing applicator (10) containing a processing fluid (12). The processing fluid may be a liquid etchant. See Abstract and (Col. 2, Lines 41-50) and (Col. 4, Lines 32-34). The etchant meniscus is contacted with the substrate (26) (Col 3, Lines 18-25). The fluid meniscus is formed above the edges of the holding tank (15). See Figure 1. The holding tank has at least one channel to hold the fluid, and at least one overflow channel. See Figure 1. The liquid etchant is injected into the holding tank (15) via pump (28). The substrate is removed after contact with the fluid meniscus for rinsing and drying. The substrate may have a protective material layer such as a photoresist (Col. 4, Line 33). Britten teaches moving the substrate relative to the holding tank (Col. 2,

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Lines 21-25) as well as moving the tank relative to the substrate (Col. 3, Lines 23-26). Britten teaches drying by evaporation, but also shows a gas current such as forced air (dry compressed air) may be applied to the substrate (Col. 4, Line 25).

Britten does not teach the use of a holding fixture for the substrate. However the use of a holding fixture for wet processing is well known in the etching art. Moffat teaches that a vacuum chuck is suitable for holding a substrate for subsequent wet processing steps (Col. 3, Lines 19-21). It would have been obvious to one of ordinary skill in the art at the time of invention to use a vacuum chuck to hold the substrate in order to facilitate wet processing as taught by Moffat. The vacuum chuck holder is interpreted by the examiner to be a "fluidic means" as broadly defined by applicant in claim 3.

Regarding claim 5, Britten shows that the solvent is re-circulated and replenished by use of a filter and pump. See Figure 1. Britten also teaches that it is known in the art to recycle and heat a solvent (Col. 1, lines 52-55). Heating is interpreted to be a form of agitation since claim 5 is not limited to the type of agitation (i.e. mechanical, thermal). It would have been obvious to one of ordinary skill in the art to heat the solution in order to improve the etch rate.

Claims 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,660,642 to Britten in view of U.S. Patent 5,171,393 to Moffat and U.S. Patent 5,279,703 to Habberger.

As applied above, Britten in view of Moffat discloses the method of invention substantially as claimed, but does not teach the use of electromagnetic radiation. Habberger teaches a process for etching a substrate in which electromagnetic radiation is used to heat a substrate and improve the etch rate (Col. 4, Lines 65-68). It would have been obvious to one of ordinary skill in the art at the time of invention to irradiate the substrate in the well-known manner in order to heat the substrate and improve the etch rate as indicated by Habberger (Col. 4, Lines 6-10). The location of the energy source is not given any patentable weight because one of ordinary skill in the art would recognize that the energy source could be secured anywhere that permits the energy source to focus on the substrate.

### ***Conclusion***


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Roberts Culbert whose telephone number is (703) 305-7965. The examiner can normally be reached on Monday-Friday (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Mills can be reached on (703) 308-1633. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

May 15, 2003

  
GREGORY MILLS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700